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PATENT
Docket No. 58027-011100**REMARKS**

The Office Action issued by the Examiner and the citations referred to in the Office Action have been carefully considered. Claims 1, 2, 3, 5, 8, 12, 14-15, 17, 22, 27-28 and 32 have been amended. Reconsideration of the rejections and objections set forth in the Office Action dated July 21, 2005, is respectfully requested. Applicants submit that the claims are in condition for allowance.

Claim Rejections - 35 U.S.C. § 112

The Examiner has rejected Claims 1, 3-5, 8, 10-12, 14, 15, 17-19, 22, 26-28 and 32 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims have been amended to overcome this rejection.

Referring to Claims 1, 27 and 32, the Examiner states that "the wave characteristics as generated by the combustion are not considered elements of the apparatus but rather, process limitations," rendering the claims vague and indefinite. Applicants respectfully disagree. The wave characteristics are a design feature in which a resonant acoustic chamber works synergetically with the mixing of the chemicals, thus causing combustion. Without the presence of the resonating acoustic wave, the device would be unable to function.

Claim Rejections - 35 U.S.C. § 102 and 35 U.S.C. § 103

The Examiner has rejected Claims 1, 3-5, 8, 10-12, 14, 17-19, 22, 26-28 and 32 under 35 U.S.C. § 102(e) as being anticipated, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable, over Young et al. The Examiner has rejected Claim 15 under 35 U.S.C. 103(a) as being unpatentable, over Young et al in view of Loeb.

In particular, the Examiner states Young et al. discloses "that particular wave characteristics of the combustion are controllable in the apparatus." However, as the Examiner states "Young et al. is silent as to operating the apparatus such that, the combustion of the evaporated fluid generating an acoustic wave." Young et al. teaches "modulating the

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combustion output by increasing or decreasing the flow of fuel to the combustion zone" and "modulating the amount of heat energy returned to the vaporization/pressurization module." Utilization of the pressure changes at a resonant frequency is a key component of these claims. Young et al. operates differently than how the claimed device operates.

Essentially, Young et al. discloses a device that overpressures and sustains a constant flame with some modulation. This is not acoustic resonance chamber as in the disclosed device. The reaction in the Applicant's device occurs as the pressure change in the reaction chamber pulls oxidizer into the chamber to create a subsequent mixture. The chamber is designed to resonate at a frequency to couple with the combustion process. Accordingly, it results in pulses of combustion occurring at a resonant frequency, and is not a sustained flame. This result is innately different than that disclosed in Young et al.

Additionally, in Young et al., the reactant flow is controlled to modulate the combustion. By increasing and decreasing the flow of the reactant, Young et al. achieves a larger or smaller combustion reaction. The is not modulation generated via a pressure change pulling in more oxidizer, but by modulating the flow of the reactant. This is not the result of the resonance characteristics as in the claimed device wherein pulses of combustion result.

Another difference between Young et al. is the membraneous pad included in the evaporator. The "hot seat assembly comprising vapor permeable members" in Young et al. is clearly for vapor holding. The claimed device utilizes a membraneous pad to hold the liquid fuel. Young et al. holds the fuel vapor pressure and then injects it into their combustion section, while the current device holds liquid fuel at the "membraneous pad" which directly converts to reactant vapors without any further "hot seat assembly". This is inherent in the totally different operating requirements of the two apparatus.

The claims have also been amended to include the limitation "an exhaust from the chamber, the exhaust being elongated and narrow relative to the length and width of the chamber." This limitation is not found in Young et al and is not obvious to one of ordinary skill in the art.

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Accordingly, the distinctions between Young et al. and the elements in claims 1, 27, and 32 show that Young et al. does not anticipate and the claimed device is not obvious to one of ordinary skill in the art. For the reasons set forth above, the applicants submit that independent claims 1, 27, and 32 are in condition for allowance.

Claims 3-5, 8, 10-12, 14, 15, 17-19, 22, 26, as amended, depend directly or indirectly from allowable claim 1. Therefore, such claims are deemed to be novel over Young et al. at least by virtue of such dependency.

New Claims

Claims 36-39 are new claims that further define the disclosure in terms of a method of mixing chemicals and process limitations. Additionally, all of the elements of Claims 36-39 are well supported in the original as-filed application and do not present new matter.

Claim 36 has defined the apparatus claim in terms of method limitations. For the same reasons stated above, Claim 36 is not obvious in view of Young et al.

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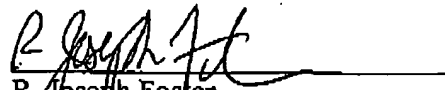
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Applicants have complied with all requirements made in the above referenced communication. Applicants submit that the present application is in condition for allowance, and therefore, respectfully request that a timely Notice of Allowance be issued in this case. Should matters remain, which the Examiner believes could be resolved in a telephone interview, the Examiner is requested to telephone the Applicants' undersigned agent.

The Director is authorized to charge any additional fee(s) or any underpayment of fee(s), or to credit any overpayments to Deposit Account Number 50-2638. Please ensure that Attorney Docket Number 58027-011100 is referred to when charging any payments or credits for this case.

Respectfully submitted,

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